



Chemical and Environmental Measurement Information

# Recra LabNet Philadelphia Analytical Report \*\*REVISION

Client: TNU-HANFORD B99-085

**RFW#:** 9910L314

SDG/SAF #: H0563/B99-085

W.O. #: 10985-001-001-9999-00

Date Received: 10-08-99

Date

### **SEMIVOLATILE**

This narrative was corrected to add the TIC search for Tributylphosphate.

One (1) water sample was collected on 10-06-99.

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**EDMC** 

The sample and its associated QC samples were extracted on 10-12-99 and analyzed according to criteria set forth in Recra OPs based on SW 846 Method 8270B for TCL Semivolatile target compounds on 10-20-99.

The following is a summary of the QC results accompanying the sample results and a description of any problems encountered during their analyses:

- 1. The cooler temperature upon receipt has been recorded on the chain-of-custody.
- 2. The required holding times for extraction and analysis were met.
- 3. Non-target compounds were detected in the sample.
- 4. All surrogate recoveries were within EPA QC limits.
- 5. All matrix spike recoveries were within EPA QC limits.
- 6. All blank spike recoveries were within EPA QC limits.
- 7. The method blank contained the common laboratory contaminant Di-n-butylphthalate at a level less than the CRQL.
- 8. The sample was spectrally searched for Butylated Hydroxytoluene and Tributylphosphate; however, they were not identified in the sample.

/ J. Michael Taylor

Vice President

Philadelphia Analytical Laboratory

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The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 10 pages.



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#### **GLOSSARY OF BNA DATA**

#### **DATA QUALIFIERS**

U	=	Compound was analyzed for but not detected. The associated numerical value is the estimated
		sample quantitation limit which is included and corrected for dilution and percent moisture.

- J = Indicates an estimated value. This flag is used under the following circumstances: 1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; or 2) when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. For example, if the limit of detection is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.
- B = This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination. This flag is also used for a TIC as well as for a positively identified TCL compound.
- E = Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
- D = Identifies all compounds identified in an analysis at a secondary dilution factor.
- I = Interference.
- NQ = Result qualitatively confirmed but not able to quantify.
- A = Indicates that a TIC is a suspected aldol-condensation product.
- N = Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.
- X = This flag is used for a TIC compound which is quantified relative to a response factor generated from a daily calibration standard (rather than quantified relative to the closest internal standard).
- Y = Additional qualifiers used as required are explained in the case narrative.

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# **GLOSSARY OF BNA DATA**

## **ABBREVIATIONS**

BS = Indicates blank spike in which reagent grade water is spiked with the CLP matrix spike solutions and carried through all the steps in the method. Spike recoveries are reported.

BSD ≈ Indicates blank spike duplicate.

MS = Indicates matrix spike.

MSD = Indicates matrix spike duplicate.

DL = Suffix added to sample number to indicate that results are from a diluted analysis.

NA = Not Applicable.

DF = Dilution Factor.

NR = Not Required.

SP, Z = Indicates Spiked Compound.

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03

#### Recra LabNet - Lionville Laboratory

RFW Batch Number: 9910L314 Client: TNU-HANFORD B99-085 Work Order: 10985001001 Page: la

Semivolatiles by GC/MS, HSL List

Report Date: 11/02/99 14:13 🛪

	Cust ID:	BOWLM3	<b>,</b>	BOWLM3	1	BOWLM3	3	SBLKER		SBLKER BS	
Sample Information	RFW#:	002 WATER	}	002 MS WATER	;	002 MSI WATER	)	99LE1240-M WATER	Œ1	99LE1240-ME WATER	31
	D.F.:	1.0	0	1.0	0	1.0	0 (	1.0	0	1.00	)
	Units:	UG/I	1	UG/I	,	UG/I	J	UG/I	ı	UG/L	
	Nitrobenzene-d5	72	%	64	%	82	%	85	%	76	%
Surrogate	2-Fluorobiphenyl	80	%	43	%	85	8	78	8	80	%
Recovery	Terphenyl-dl4	78	%	57	%	84	%	92	%	74	<sup>%</sup>
-	Phenol-d5	60	%	69	%	72	8	79	ò	36	8
	2-Fluorophenol	69	%	75	%	77	%	0.8	96	76	%
	2,4,6-Tribromophenol	83	o\o	45	%	98	%	86	%	75	%
=========		== <b>==</b> ===	= f 1 ==		= f 1 = :	========	==f1		= f 1	.== <b>=</b> =====	=fl=======f
Phenol		10	U	67	8	72	%	10	U	73	%
bis(2-Chlor	roethyl)etherenol	10	U	20	U	20	U	10	U	10	U
2-Chlorophe	enol	10	U	69	8	75	ર્જ	10	U	76	%
1,3-Dichlor	robenzene	10	U	20	U	20	U	10	U	10	U
1,4-Dichlor	cobenzene	10	U	69	%	75	%	10	U	62	%
1,2-Dichlor	robenzene	10	บ	20	U	20	U	10	Ū	10	U
2-Methylphe	enol	10	U	20	U	20	U	10	U	10	U
2,2'-oxybis	s(1-Chloropropane)	10	U	20	U	20	U	10	U	10	U
4-Methylphe	enol	10	U	20	U	20	U	10	U	10	U
N-Nitroso-d	di-n-propylamine	10	U	47	%	75	ofo	10	U	77	%
	ethane	10	U	20	U	20	U	10	U	10	U
	ne	10	U	20	U	20	U	10	U	10	U
Isophorone		10	U	20	U	20	U	10	Ų	10	U
2-Nitrophen	101	10	U	20	U	20	U	10	U	10	U
2,4-Dimethy	/lphenol	10	U	20	U	20	U	10	U	10	U
bis(2-Chlor	coethoxy) methane	10	U	20	U	20	U	10	U	10	U
2,4-Dichlor	cophenol	10	U	20	U	20	Ū	10	U	10	U
1,2,4-Trich	nlorobenzene	10	U	65	ફ	76	%	10	U	64	o o
Naphthalene		10	U	20	U	20	U	10	U	10	U
4-Chloroani	lline	10	U	20	U	20	U	10	U	10	U
Hexachlorob	outadiene	10	U	20	U	20	U	10	U	10	Ū
4-Chloro-3-	-methylphenol	10	U	45	%	78	%	10	U	64	90
2-Methylnan	ohthalene	10	U	20	U	20	U	10	U	10	U
Hexachloroc	cyclopentadiene	10	U	20	U	20	U	10	U	10	U
2.4.6-Trich	nlorophenol	10	U	20	U	20	U	10	U	10	U
	nlorophenol	25	Ū	50	Ü	50	Ū	25	Ū	25	U
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\*= Outside of EPA CLP QC limits.

RFW Batch Number: 9910L314 Client: TNU-HANFORD B99-085 Work Order: 10985001001 Page: 1b

Cust ID:	BOWLM3	}	BOWLM3		BOWLM3		SBLKER		SBLKER BS		_
RFW#:	002	1	002 MS	i	002 MSD		99LE1240-M	в1	99LE1240-M	В1	
2-Chloronaphthalene	10	U	20	U	20	U	10	U	10	U	_
2-Nitroaniline	25	U	50	U	50	U	25	U	25	U	
Dimethylphthalate	10	U	20	U	20	U	10	U	10	U	
Acenaphthylene		U	20	U	20	U	10	U	10	U	
2,6-Dinitrotoluene	10	U	20	U	20	U	10	U	10	U	
3-Nitroaniline	25	U	50	U	50	U	25	U	25	U	
Acenaphthene	10	U	49	%	88	%	10	U	79	%	
2,4-Dinitrophenol	25	U	50	U	50	U	25	U	25	U	
4-Nitrophenol	25	U	30	%	76	%	25	U	59	010	
Dibenzofuran	10	U	20	U	20	U	10	U	10	U	
2,4-Dinitrotoluene	10	U	46	%	92	o <sub>o</sub> o	10	U	72	oto	
Diethylphthalate	0.8	J	20	U	20	U	10	U	10	U	
4-Chlorophenyl-phenylether	10	U	20	U	20	Ų	10	U	10	U	
Fluorene	10	U	20	U	20	U	10	U	10	U	
4-Nitroaniline	25	U	50	U	50	U	25	U	25	U	
4,6-Dinitro-2-methylphenol	25	U	50	U	50	U	25	U	25	U	
N-Nitrosodiphenvlamine (1)	10	U	20	U	20	U	10	U	10	U	
4-Bromophènyl-phenylether	10	U	20	U	20	Ü	10	U	10	U	
Hexachlorobenzene	10	U	20	U	20	U	10	U	10	U	
Pentachlorophenol	25	U	41	8	86	%	25	U	68	%	
Phenanthrene	10	U	20	U	20	U	10	U	10	U	
Anthracene	10	U	20	U	20	U	10	U	10	U	
Carbazole	10	U	20	U	20	U	10	U	10	U	
Di-n-butylphthalate	0.9	JB	20	U	1	JΒ	0.8	J	10	U	
Fluoranthene		U	20	U	20	U	10	U	10	U	
Pyrene	10	U	62	%	80	%	10	U	72	olo	
Butylbenzylphthalate	10	U	20	U	20	U	10	U	10	U	
3,3'-Dichlorobenzidine	10	U	20	U	20	U	10	U	10	U	
Benzo(a)anthracene	10	U	20	U	20	U	10	U	10	U	
Chrysene	10	U	20	U	20	Ų	10	U	10	Ū	
Chrysenebis(2-Ethylhexyl)phthalate	10	U	20	U	20	U	10	U	10	U	
Di-n-octyl phthalate	10	U	20	U	20	U	10	U	10	U	
Benzo(b)fluoranthene	10	U	20	U	20	U	10	U	10	U	
Benzo(k)fluoranthene	10	U	20	U	20	U	10	U	10	U	
Benzo(a)pyrene	10	U	20	U	20	U	10	U	10	U	
Indeno(1,2,3-cd)pyrene	10	U	20	U	20	U	10	U	10	U	
Dibenz(a,h)anthracene		U	20	U	20	U	10	U	10	U	
Benzo(g,h,i)perylene	10	_	20	U	20		10	U	10	U	
(1) - Cannot be separated from Dip	henylamine	*	= Outside	of	EPA CLP QC 1	im	its.				

CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

I DOWN MA		
  BOMTW3		

Lab Name: Recra, LabNet Work Order: 10985001001

Client: TNU-HANFORD B99-085

Lab Sample ID: 9910L314-002 Matrix: (soil/water) WATER

Sample wt/vol:  $\underline{1000}$  (g/mL)  $\underline{ML}$ Lab File ID: A102015

Level: (low/med) LOW Date Received: 10/08/99

% Moisture: \_\_\_\_ decanted: (Y/N)\_\_ Date Extracted: 10/12/99

Concentrated Extract Volume: 1000(uL) Date Analyzed: <u>10/20/99</u>

Injection Volume: 2.0(uL) Dilution Factor: 1,00

GPC Cleanup: (Y/N) N pH:  $\underline{7.0}$ 

CONCENTRATION UNITS: Number TICs found: 6 (ug/L or ug/Kg) <u>UG/L</u>

	1			
CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=======================================		======	=======================================	=====
1.	UNKNOWN	6.19	7	JB
2.	UNKNOWN	6.88	9	JB
3.	UNKNOWN	7.14	7	J
4.	UNKNOWN	7.51	10	JB
5.	UNKNOWN	8.12	20	J
6.	UNKNOWN	13.30	5	JB
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#### CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

-				
1	SBLKER		•	

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B99-085

Lab Sample ID: 99LE1240-MB1 Matrix: (soil/water) WATER

Sample wt/vol:  $\underline{1000}$  (g/mL)  $\underline{ML}$ Lab File ID: A102011

Date Received: <u>10/12/99</u> Level: (low/med) LOW

% Moisture: \_\_\_\_ decanted: (Y/N) \_\_\_ Date Extracted: 10/12/99

Concentrated Extract Volume: 1000(uL) Date Analyzed: <u>10/20/99</u>

Dilution Factor: 1.00 Injection Volume: 2.0(uL)

GPC Cleanup: (Y/N) <u>N</u> pH: <u>7.0</u>

CONCENTRATION UNITS: Number TICs found: 8(ug/L or ug/Kg) <u>UG/L</u>

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
	=======================================	======	=======================================	=====
1.	UNKNOWN	6.11	3	J
2.	UNKNOWN	6.19	4	J
3.	UNKNOWN	6.89	5	J
4.	UNKNOWN	7.44	3	J
5.	UNKNOWN	7.51	7	J
6.	UNKNOWN	11.51	3	J
7.	UNKNOWN	12.55	9	J
8.	UNKNOWN	13.32	30	J
		1		

# Recra LabNet - Lionville Laboratory BNA ANALYTICAL DATA PACKAGE FOR TNU-HANFORD B99-085

CLIENT ID	RFW	#	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
BOWLM3	002		W	99LE1240	10/06/99	10/12/99	10/20/99
B0WLM3	002	MS	W	99LE1240	10/06/99	10/12/99	10/20/99
BOWLM3	002	MSD	W	99LE1240	10/06/99	10/12/99	10/20/99
LAB QC:							
<del></del>							
SBLKER	MB1		W	99LE1240	N/A	10/12/99	10/20/99
SBLKER	MB1	BS	W	99LE1240	N/A	10/12/99	10/20/99

<b>RECRA</b>	LabNet	Use	Only
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# Custody Transfer Record/Lab Work Request Page 1 of 1

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FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS



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DL - Drum Liquids					1 1			1															
L - EP/TCLP Leachate		<del> </del>		· · · · · · · · · · · · · · · · · · ·							<del> </del>												
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Bechtel Hanford	Inc.	C	HAIN OF CUS	rody/s	AMPLE	EANAL	YSIS	REQUEST	Γ	В9	9-085-5	Page <u>l</u>	of 1		
Collector			pany Contact	Telepho	ne No.			Project Coordi	nator	Price Code	7N	Data Tu	rnaround		
Bowers/Trice Project Designation	·		Cearlock ling Location	372-9	574			TRENT, SJ SAF No.			,,,		Days		
200 Area Source characteriza		- QC Sa 200	East B pond					B99-085							
Ice Chest No. SML	457		Logbook No. 1511					Method of Ship Fed ex	ment						
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POSSIBLE SAMPLE HAZA	RDS/REMARKS	· <u> </u>	Preservation	ZnAc+NaOH to pH >9 Cool	Cool 4C	HZSO4 to pH <2 Cool 4C	Cool 4	C HNO3 to pH <2	HNO3 to pH	HCl or H2SO4 to pH <2 Coo					
			Type of Container	Р	Р	P	аG	P	P	aGs*					
			No. of Container(s)	1	i	1	2	2	2	3					
Special Handling and/or Stor	rage		Volume		1000mL	1000miL	1000m	1. 1000mL	1000mL	40mL					
	SAMPLE ANA	LYSIS	<u>.                                    </u>	Sulfides - 9030	See item (1) in Special Instructions	NO2/NO3 - 353 I; Ammonia - 350 3	Semi-VO 8270A (T		See item (2) is Special Instructions	n VOA - 8260A (TCL); VOA - 8260A (Add- On) [J- Propanol,					
		1						1		Ethanol)			;		
Sample No.	Matrix *	Sample Date	Sample Time		Mile Mil		1	5 表起为				1715			
BOWLM2	Water	10/6/99	0515	199	X	-X-	<del>- X</del>		_X_	X					
BOWLM3	Water	10/0/99	1 ac45	X	<u> </u>	_×_	X		X	7					
CHAIN OF POSSESSION		Sign/Pri	nt Names			IAL INSTR		NS de, Fluoride. Nitrat	e. Nitrite. Ph	osphåte. Sulfate	1: pH	Matrix Soil	•		
Relinquished By Relinquished By REF #1A 101	199 1370 Date/Time	Received By	A 10/6/99	ate/Time  1320  ate/Time US	(Wate (2) 10 Selen Vana	r) - 9040 CP Metals - 60 ium, Silver}; 10 dium. Zinp)	IOA (Supe	rtrace) {Arsenic, B - 6010A (Supertra	arium, Cadm ce Add-On) (	nium, Chromium	, Lead,	Water Vapor Other Solid Other Liquid			
Ratin Nicher Ballon	Date/Time 143 RSON 1017199	() Received By	124 Di	ate/Time	117		به <i>کو</i> : ماسم :	s. Pal	Aco	7.60					
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FINAL SAMPLE Disposal Me	ethod			<u> </u>		Dispos	sed By				Da	ate:Time			